18. REDISCOVERY OF THE FOREST CANE TURTLE, *HEOSEMYS (GEOEMYDA) SILVATICA* (REPTILIA, TESTUDINATA, EMYDIDAE) FROM CHALAKUDY FORESTS IN KERALA

During a recently conducted search for *Heosemys silvatica* (Henderson 1912) a single specimen was found in the Chalakudy forests of Kerala State after a period of 70 years. The forest cane turtle or *choorel amai*, as it is called by tribals was first discovered by Dr. Henderson in 1912 when two male *Heosemys silvatica* were found in the Kavalai area about 1500 ft high in the Chalakudy forests (Smith 1931). A subsequent search for the turtle proved unsuccessful. (Groombridge, in prep.).

Heosemys silvatica is a small, little known turtle, which is entirely terrestrial. All the known specimens have been found at an altitude of above 1000 ft in the rain forests of the Western ghats within Kerala State.

'Ponna' (*Dillenia pentagyna*), *Cordia obliqua*, and fallen jack fruits (*Artocarpus integrifolia*). It does not frequent water, usually concealing itself under reed bamboo groves, fallen logs, rock crevices and similar dark recesses.

In the specimen of *Heosemys silvatica* collected, the head is an attractive red colour — the region around the iris within the eye also being red, the jaw-line is pale yellow, the neck is deep brown, limbs and tail are pale brown. The carapace is orangish, the scutes being slightly imbricate. The plastron is yellow with two irregular brown patches placed on the bridge. The head is large and the upper and lower jaws are deeply hooked. There is a small 2 mm long scaly protrube-

MEASUREMENTS (IN MM) OF *Heosemys (Geoemyda) silvatica* (Henderson 1912)

	Carapace length	Carapace width	Plastron length	Plastron width	Shell height	Forelobe length	Bridge length	Hindlobe length
Total length:	129.2	93.5	108.0	77.0	45.0	45.5	46.0	38.0
Notch to notch:	127.2	—	118.5	—	—			
Curve:	137.0	117.0	124.0	86.0	—			

According to the tribals, the cane turtles are not common as the Travancore tortoises *Geochelone travancorica* (Boulenger 1907) which shares the same habitat. The specimen collected was found by using native hunting dogs by the tribals. This small turtle is much relished by them for its flesh.

This terrestrial emydine is herbivorous in diet, reportedly feeding on fallen fruits of

rance on the hind feet which might be sexually diagnostic.

In captivity the turtle is generally inactive during the day, while it feeds and moves in the dark. It is suspected to be crepuscular in its activities in nature. It feeds on fruits and greens.

According to one source 2 eggs were found within a female. Eggs are deposited in small cavity on the ground.

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19. BEHAVIOUR OF THE MALE GHARIAL DURING THE NESTING AND POST-HATCHING PERIOD

Introduction

During the first captive breeding of the gharial in 1980 (Bustard & Maharana 1980) observations were recorded on the behaviour of the male during nesting and incubation and also following hatching of the young. These data provide comparison with observations recorded elsewhere on other species of crocodilians. Del Toro (1969) and Hunt (1969), both reported on parental care in *Caiman crocodilus*. Del Toro stated that the male and female remained near the nest all the time permitting no one to approach. The male took the main defensive role. Both individuals watched the nest and its surroundings even when in the water. The male opened the nest and liberated the hatchlings while the female remained in the water calling to the young. Hunt noted that humans approaching the nest were not attacked. Both male and female occupied an area next to the nest by day and often the male guarded the nest at night. Neither parent opened the nest in response to croaking of the young. Hunt (1975) noted for *Crocodylus moreleti* that the mother crocodile chased other crocodiles except the dominant male away from the hatchlings, and that the dominant male chased all other crocodiles (in this mixed species display) except the two female *moreleti* out of the water but he allowed the hatchlings to bask on his back. Lever (1975) stated that in *C. porosus* the male assisted in nest defence in captivity and Lever and Balson (1978) recorded in *C. novaeguineae* that the male also helped to open the nest at hatching time and also picked up hatchlings in his jaws for transportation from the nest to the water.

Materials and Methods

Observations were recorded on the behaviour of a 3.8 m male gharial which had mated with a 3.17 m female gharial housed in an ideal breeding enclosure (Bustard & Maharana, in press), the pool of which measured 59.5 m x 29.7 m x 9.1 m in maximum depth.

Results

1. *At time of trial nesting*:

During the pre-nesting season, when the female emerged during the night to dig trial